

A NEW CAVE-DWELLING TRICALAMUS SPIDER FROM GUIZHOU, CHINA (ARANEAE, FILISTATIDAE)

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Abstract *Tricalamus biyun* sp. nov., a new species of the family Filistatidae is described and illustrated from a cave in Pan County, Guizhou Province, Southwestern China.

Key words Araneae, Filistatidae, *Tricalamus*, new species, troglophilous, China.

The Filistatidae is cribellate spiders that have an almost worldwide distribution, known in tropical, subtropical and arid regions in parts of North America, South America, Southern Europe, Australia and the Afrotropical Region (Jocqué & Dippenaar-Schoeman, 2006). The Filistatids differ from all other cribellate spiders in having fused chelicerae, clustered eyes on a central mound, posteriorly rounded abdomen with extending beyond the spinnerets (Ubick, 2005). Filistatids are nocturnal, living in tubular silk-lined retreats in crevices in rocks or wall (Song, Zhu & Chen, 1999). To date, 109 species belonging to 16 genera in this family have been reported all over the world, among of them, 17 species belonging to three genera recorded in China (Platnick, 2008). Wang (1987) established the *Tricalamus* and described seven Chinese species. Up to now, 11 species of the genus *Tricalamus* have been described, all of which were located in China: *T. albidulus* Wang, 1987; *T. longimaculatus* Wang, 1987; *T. menglaensis* Wang, 1987; *T. meniscatus* Wang, 1987; *T. papilionaceus* Wang, 1987; *T. papillatus* Wang, 1987; *T. tetragonius* Wang, 1987; *T. gansuensis* Wang & Wang, 1992; *T. xianensis* Wang & Wang, 1992; *T. jiangxiensis* Li, 1994; *T. linzhienensis* Hu, 2001.

This paper deals with a new species of the family Filistatidae from Biyun Cave, Panxian, Guizhou Province, China, named *Tricalamus biyun* sp. nov. Type specimens are deposited in the College of Life Sciences, Hebei University (1, 4), Baoding, China. All measurements given are in millimeters. Abbreviations used in the text and figures are given as followings, ALE: anterior lateral eyes, AME: anterior median eyes, AP: anterior proflexion, C: calamistrum, CD: copulatory ducts, EF: epigastric flap, LS: lateral spermathecae, MS: medial spermathecae, PLE: posterior lateral eyes, PME: posterior median eyes, TS: thick setae.

Tricalamus biyun sp. nov. (Figs. 1-11)

Holotype, paratypes: 1, 3, Biyun Cave (25°46' N, 104°38' E), Chengguan Town, Pan County, Guizhou Province, China, 11 Jan. 2008, collected by CHEN Hui-Ming and ZHANG Yan-Quan.

Etymology. The specific name refers to the type locality, and is noun in apposition.

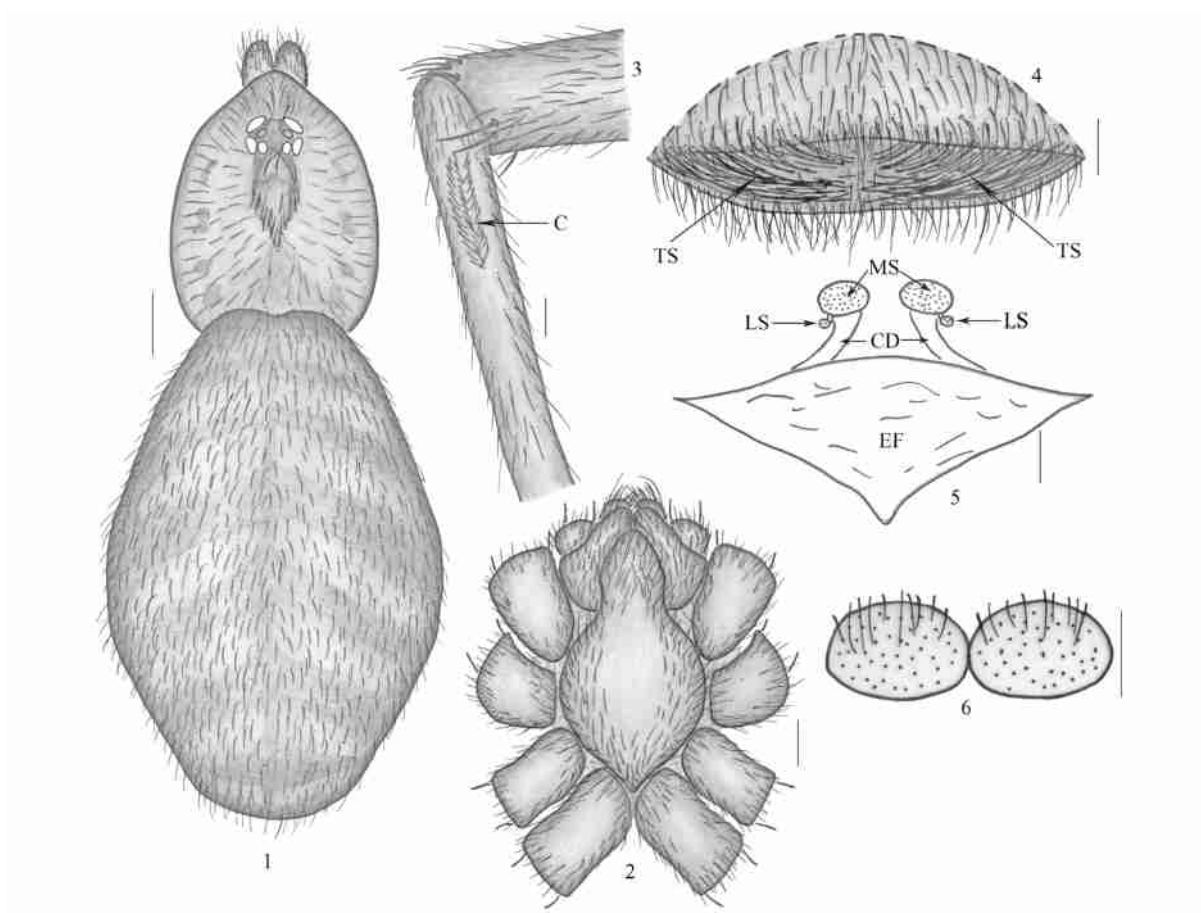
Diagnosis. The new species is similar to *T. tetragonius* Wang, 1987 (296, Figs. 1-2), but females of *T. biyun* sp. nov. differ from the latter by the abdominal chevroned pattern (Fig. 1) (undulated in *T. tetragonius*), two tiny lateral spermathecae (big in *T. tetragonius*), and the wider triangular flap (Fig. 5); male by a coniform palpal bulb (subsphaeroidal in *T. tetragonius*), slightly broad embolus on apex, having six spines of tibia (Fig. 8) and two spines of tibia (Fig. 9).

Female. Total length 3.93. Carapace 1.60 long, 1.25 wide, oval, flat; light orange in colour, with brownish setae. Ocular area 0.23 long, 0.36 wide; with eight eyes in a compact group, situated on a small tubercle. Anterior eye row and posterior eye row procurved. AME are diurnal eyes, other six eyes nocturnal. ALE > AME, PLE > PME. Posterior median eyes separated about 1.5 times their diameters. Eyes measurement: ALE 0.13, AME 0.06, PLE 0.10, PME 0.08, PME-PME 0.12. Sternum oval, with brownish setae. Chelicerae small, fused basally. Endites convergent, labium fused to sternum (Fig. 2). Abdomen 2.51 long, 1.93 wide, cylindrical flattened, color grayish black, with white chevrons (Fig. 1). In ventral position, with divided cribellum (Fig. 6).

Ventral view of female epigynum with numerous long thick setae covered the vulva arisways (Fig. 4); four spermathecae present, median one normal, lateral one very small, and a wider triangular flap (Fig. 5) posteriorly located. Copulatory duct thick, arisways

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Figs. 1-6. *Tricalamus biyun* sp. nov., female holotype. 1. Carapace and abdomen, dorsal view. 2. Sternum, maxilla and labium, ventral view. 3. Calamistrum, lateral view. 4. Epigynum, ventral view. 5. Vulva, dorsal view. 6. Cribellum, ventral view. Scale bar: 1=0.4 mm, 2=0.2 mm, 3-4=0.1 mm, 5-6=0.05 mm.

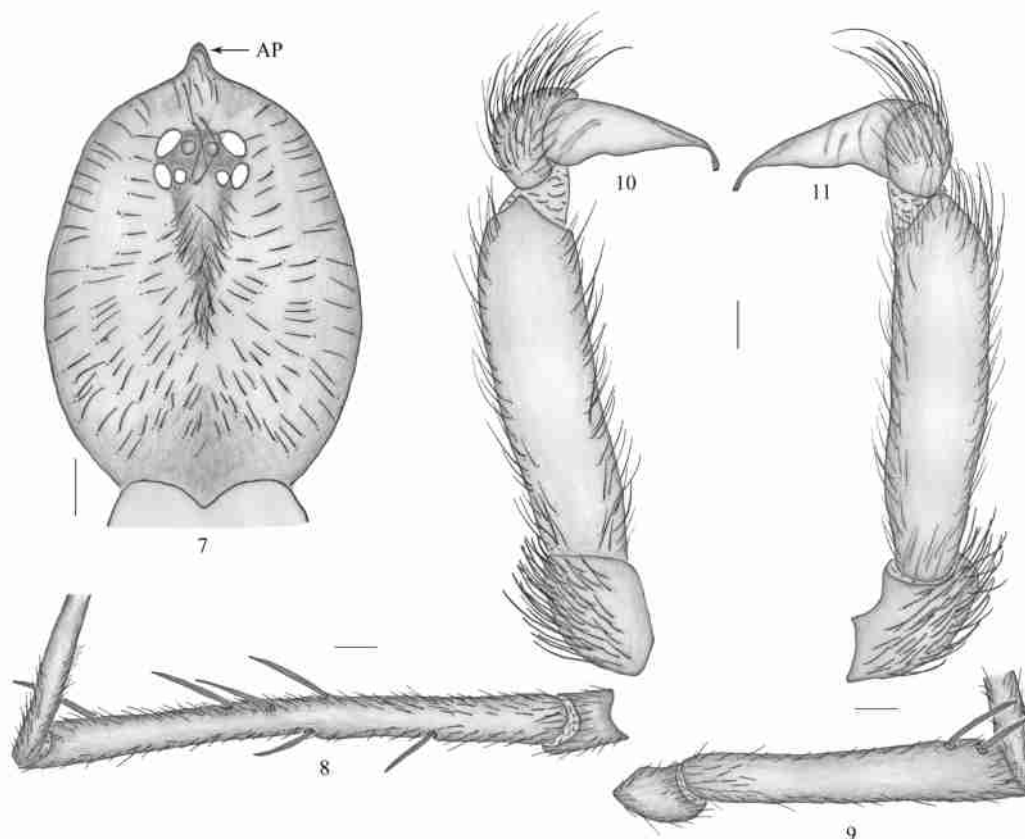
stand on the epigastric flap (Fig. 5).

Legs grayish brownish, autospasy at tibia-patella joint. Calamistrum composed by three rows of curved weak spines on the metatarsus (Fig. 3). Measurements of palp and legs: palp 2.55 (0.88, 0.20, 0.75, 0.73); leg 7.25 (2.00, 0.40, 2.08, 1.63, 1.15), 5.18 (1.55, 0.30, 1.45, 1.10, 0.78), 3.80 (1.13, 0.30, 0.90, 0.88, 0.60), 5.65 (1.63, 0.28, 1.58, 1.35, 0.83). Leg formula: 1423.

Male. Total length 3.07. Carapace 1.53 long, 1.13 wide; oval, flat, with anterior profection (Fig. 7). Ocular area 0.19 long, 0.32 wide. Posterior median eyes separated about 1.1 times their diameters. Eyes measurement: ALE 0.13, AME 0.06, PLE 0.10, PME 0.08, PME-PME 0.09. Abdomen 1.98 long, 1.35

wide. The genital organ of male palpal as in Figs. 10-11, patella present long thick setae, tarsus with long setae (Figs. 10-11). Palpal tibia globose, with numerous long thick setae, bulb small, devoid of paraembolic lamina. Embolus with apex dark, slightly broad, curved end (Figs. 10, 11).

Legs grayish brownish, tibia have six spines (Fig. 8), tibia two spines (9). Measurements of palp and legs: palp 2.06 (0.98, 0.17, 0.79, 0.13); leg 7.45 (2.03, 0.33, 2.23, 1.75, 1.13), 4.25 (1.10, 0.28, 1.50, 0.73, 0.65), 3.73 (1.083, 0.13, 0.90, 1.03, 0.60), 5.13 (1.53, 0.28, 1.43, 1.10, 0.80). Leg formula: 1423. Other features as in female.



Figs. 7-11. *Tricalamus biyun* sp. nov., male paratype. 7. Carapace, dorsal view. 8. Tibia, prolateral view. 9. Tibia, retrolateral view. 10. Genital organ, prolateral view. 11. Ditto, retrolateral view. Scale bar: 7-9 = 0.2, 10-11 = 0.1.

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贵州洞穴三栉毛蛛属一新种记述 (蜘蛛目, 管网蛛科)

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摘要 记述产自贵州省盘县的管网蛛科三栉毛蛛属 1 新种, 命名为碧云三栉毛蛛 *Tricalamus biyun* sp. nov.。模式标本保存在河北大学生命科学学院。

鉴别特征 新种近似于方斑三栉毛蛛 *Tricalamus tetragonius* Wang, 1987, 但其雌蛛腹部背面具 V 形斑 (而后者为波状纹), 外雌器具两个极小的纳精囊位于两侧 (后者侧囊大)

关键词 蜘蛛目, 管网蛛科, 三栉毛蛛属, 新种, 洞穴, 中国.
中图分类号 Q959.226

和 1 个宽阔的三角形腹翼; 雄蛛生殖球近圆锥形 (后者近球形), 插入器末端稍宽; 雄蛛步足胫节具 6 根长刺, 胫节具 2 根长刺。

正模, 副模 1, 3, 贵州省盘县城关碧云洞, 2008-01-12, 陈会明、张雁泉采。